# Live Streaming Professional Development Events

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# Why Did We Decide To Do This?

- Wide outreach to staff in different locations
- Available for teachers that may not have been present
- Recording for future playback reference

VR-4HD

# What Gear Do We Use?

-Roland VR-50 HD Mixing Board

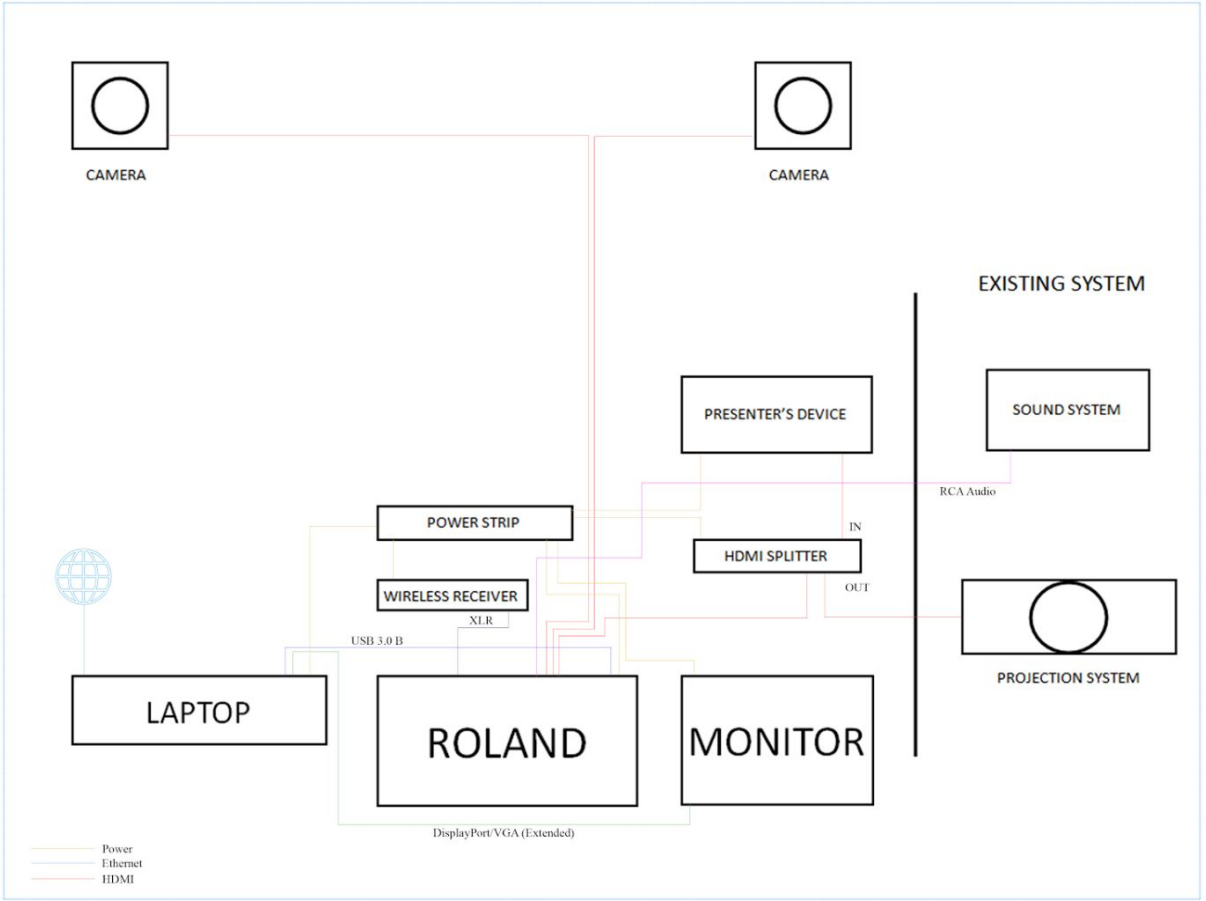
-2 Panasonic UX-90 Video Cameras

-HDMI Splitter

-Shure Wireless Lapel Microphone

-Laptop with i7 and GFX Card

**Full List**
https://docs.google.com/spreadsheets/d/1jk5ngywerMh7fHsgDya5upurWFYBAeJORtqa_XfS_jA/edit?usp=sharing


CAMERA
CAMERA
EXISTING SYSTEM
PRESENTER'S DEVICE
SOUND SYSTEM
RCA Audio
POWER STRIP
IN
HDMI SPLITTER
OUT
WIRELESS RECEIVER
XLR
USB 3.0 B
PROJECTION SYSTEM
LAPTOP
ROLAND
MONITOR
DisplayPort/VGA (Extended)
Power
Ethernet
HDMI

# Streaming Methods

# Streaming Methods

-OBS (Open Broadcaster Software)

- Hangouts On Air
- YouTube Live
- RTMP Based Streaming Services
- WireCast

Wirecast

## General Bitrate Guide

| Output size | Bitrate | Filesize |
|---|---|---|
| 320x240 pixels | 400 kbps | 3MB / minute |
| 480x270 pixels | 700 kbps | 5MB / minute |
| 1024 x 576 pixels | 1500 kbps | 11MB / minute |
| 1280x720 pixels | 2500 kbps | 19MB / minute |
| 1920x1080 pixels | 4000 kbps | 30MB / minute |

**Things that affect bandwidth needs:**

- Video Resolution
- Video Frame Rate
- Audio Quality
- Amount of Simultaneous Streams (Multi Bitrate Streaming)

## More Details

https://support.google.com/youtube/answer/2853702?hl=en

# Challenges

- Audio issues with Wirecast
- Building Systems Not Tested
- Confusion Over Streaming Links

- Have a backup plan

- ***Have a backup for your backup***

- Our Experience

# Questions?

# Thank You